Miguel Jimenez

miguel@uvic.ca · migueljimenez.co · ⬤ /jachinte · 🔗/in/jachinte · Curriculum Vitae

INDUSTRY EXPERIENCE

Software Development Positions

Software Engineer Intern at SAP (Remote)
2020 | Montreal, Canada   Java   HTML   CSS   JavaScript   Docker   Hybris   Solr

- Successfully resolved long-standing issues with the Windows configuration with minimal directions and little experience with the code base
- Followed SAP's agile methodology framework with good performance with respect to source code quality and overall expectations of the team
- Was recognized as a self-starter and hard-working member of the team with initiative to take on additional tasks to help the team succeed
- Contributed to complex frontend and backend tickets and successfully met deadlines, always solving more tickets than originally assigned

Software Developer at SQL Soluciones Informáticas
2009 – 2010 | Cali, Colombia   PowerBuilder   PHP   PostgreSQL   HTML   CSS   JavaScript

- Developed content management site for documentation and video tutorials, increasing customer satisfaction and supporting a market expansion
- Recorded and edited 90+ training videos
- Deployed and managed the corporate website, customer support portal, and online store using   Joomla!   and   Drupal
- Designed the user interface of new software components and improved the user experience and interface of existing ones

Software Engineering Consulting

Talentum, Software Development (Senior)
2021 | Cali, Colombia   Keycloak (SSO)   NodeJS   Loopback   NextJS   Docker   Kubernetes   Helm

Edurita, Kubernetes Administration
2020-Present | Victoria, Canada   Kubernetes   Docker   Continuous Delivery

Carvajal Espacios, Web Software Development
2015 | Cali, Colombia   Play! framework (Java)   Spring Data JPA   Hibernate   PostgreSQL   HTML   CSS   JavaScript

Laboratorios LaFrancol, Web Software Development
2015 | Cali, Colombia   C#   ASP.NET MVC   Entity Framework   MS SQL Server   NodeJS   HTML   CSS   JavaScript

SQL Soluciones Informáticas, Software Development (Junior)
2012 | Cali, Colombia   C#   ASP.NET MVC   Entity Framework   MS SQL Server   HTML   CSS   JavaScript

Patents

- Two-Way Synchronization of Infrastructure-as-Code Templates and Instances. March 2022 (Submitted)

EDUCATION

Ph.D. in Computer Science

University of Victoria, Victoria, Canada · Expected Spring 2022

- IBM Center for Advance Studies Grant, Howard E. Petch Research Scholarship, University of Victoria Doctoral Fellowship
- **Thesis** A Framework for Autonomic and Continuous Software Evolution

M.Sc. in Software Engineering

Universidad Icesi, Cali, Colombia · Summer 2016

- Young Researcher Fellowship, Universidad Icesi Master's Degree Fellowship
- **Thesis** A Framework for Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Software Systems

B.E. in Software Systems Engineering

Universidad Icesi, Cali, Colombia · Spring 2014

- Student Loan Waiver (100%), Universidad Icesi Bachelor's Degree Scholarship
- **Degree Project** PaSCAni: A Language for Run-Time Validation and Verification of Functional Requirements

CONTINUING EDUCATION

- Machine Learning and IoT Foundations (Badge)
- Software Engineering Lifecycle of IoT Systems
- Software Product Lines
- Entrepreneurship Laboratory with Mobile Tech.

SKILLS

- **Technical Skills**: Web Programming, Architecture Design, Containerized Applications, Continuous Delivery, Cloud Computing, Infrastructure as Code, Language Engineering, Software Deployment, Object-Oriented Programming, Technical Writing

- **Programming and Domain-Specific Languages**: Java, Xtend, JavaScript, TypeScript, CSS (and pre-processors), HTML, C, Python, Terraform, LaTeX, C#, ShellScript, SQL

RESEARCH EXPERIENCE

Graduate Research Assistant | Rigi Research Group
Aug 2016 – Present | University of Victoria, Canada

Java   Gradle   Maven   Xtend   Eclipse Xtext   Eclipse EMF   OpenStack   VMware vSphere   Infrastructure-as-Code   Terraform   Git

- Filed a patent application
- Runner-up for IBM CAS Project of the Year among 55 projects
- Runner-up for IBM CAS Student of the Year among 124 graduate students
- Published 13 refereed journal, conference and workshop papers on Software Deployment, Continuous Experimentation, and DevOps
- Presented 15+ contributed and invited talks / posters
- Participate in industry collaborative projects with IBM as a lead student, including **Reverse Engineering Deployment Specifications from Running Systems** and **Cognitive IoT Recipe Maven**
- Implemented a proof of concept middleware to support the automated evolution of Infrastructure-as-Code specifications based on run-time adaptations to a cloud system running on VMware vSpehere and OpenStack
- Designed and developed of a conversational agent for the smart kitchen based on user, fridge and store contexts
- Implemented proof-of-concept applications, including a ReactJS web application for a smart recipe recommender and an Android application for the management of dietary restrictions

Graduate Research Assistant | i2T/DRISO Research Group
Jan 2014 – Aug 2016 | Universidad Icesi, Colombia

Java   JEE   Maven   Eclipse Xtext   RabbitMQ   ElasticSearch   InfluxDB   FraSCAti   Git   SVN

- Published 1 refereed journal paper and 2 refereed conference papers
- Participate in industry collaborative projects with Carvajal Tecnología y Servicios as a young researcher, including **Processing of Large and Complex XML Documents** and **Context-Driven Route Optimization for Home Health**
- Participated in technology transfer activities to adapt the asymmetric traveling salesman problem with time windows to Carvajal's health product
- Developed Amelia, a domain-specific language (DSL) to automate the configuration and deployment of more than **300** experiment trials. The language addressed the following challenges: variability in architectural configurations, dependency management, coordination control, modularity and composability, reusability and extensibility
- Developed PaSCAni, a DSL to specify, generate and deploy performance monitors to introspect service-oriented applications at run-time
- Managed the computing resources of the DRISO research group's computing grid (15 physical machines)

Research Assistant Intern | i2T/DRISO Research Group
Jun 2013 – Dec 2013 | Universidad Icesi, Colombia

Proposed and implemented various component-based strategies in Java for the matrix chain multiplication problem and conducted quantitative experiments to test their scalability

GRADUATE TEACHING

University of Victoria
2016 - 2018 | Victoria, Canada

C   Java   Maven   Shell script   ReactJS   ElectronJS   NodeJS   Git   Docker

- Held the following teaching positions:
  - Lead Graduate Teaching Assistant for Fundamentals of Programming with Engineering Applications. Falls 2016 - 2018
  - Graduate Consultant at the Assistance Centre in Computer Science. Spring 2018
  - Graduate Teaching Assistant for Data Structures. Fall 2016
- Lectured weekly labs and assisted students with programming and lab assignments
- Tutored students and assisted them with programming assignments in one-on-one sessions for 1st, 2nd, and 3rd year courses
- Co-led weekly meetings and developed teaching material and quizzes
- Developed examgen, a program to generate examinations along with their solutions from a YAML input file. The resulting files are rendered to either LaTeX or Moodle. Examgen allowed us to stop printing **2800** quizzes and reduced marking time by **30h** per term
- Developed grade-buddy to assist teaching assistants and professors in automating the marking of programming assignments
- Developed an installation assistant to ease the installation of CLion and its dependencies on Windows, Mac, and Linux
- Deployed and managed an online platform to host and mark programming assignments

SELECTED PROJECTS

jQuery.Stacky github.com/jachinte/jquery.stacky
249 Stars / 22 Forks   JavaScript   jQuery   npm   bower   require.js   SASS

Stacky makes it easy to create UIs with panels that open horizontally using jQuery.

jQuery.SecretNav github.com/jachinte/jquery.secretnav
73 Stars / 14 Forks   JavaScript   jQuery   npm   bower   require.js   SASS

Push menu plugin that slides out an off-canvas navigation from the edge of the screen.

SELECTED TALKS

- 4 Pathways to Autonomic Software Evolution Through Digital Twin—Proactive AIOps Workshop

- Run-time Self-Evolution and Self-Adaptation for Smart Software Systems—IBM CAS Spotlight

- Designing Run-time Evolution for Dependable and Resilient Cyber-Physical Systems—CASCON 2021